

Intellectual Property Strategy Conference 2017

Business restructuring & IP Support Activities

2017/5/18

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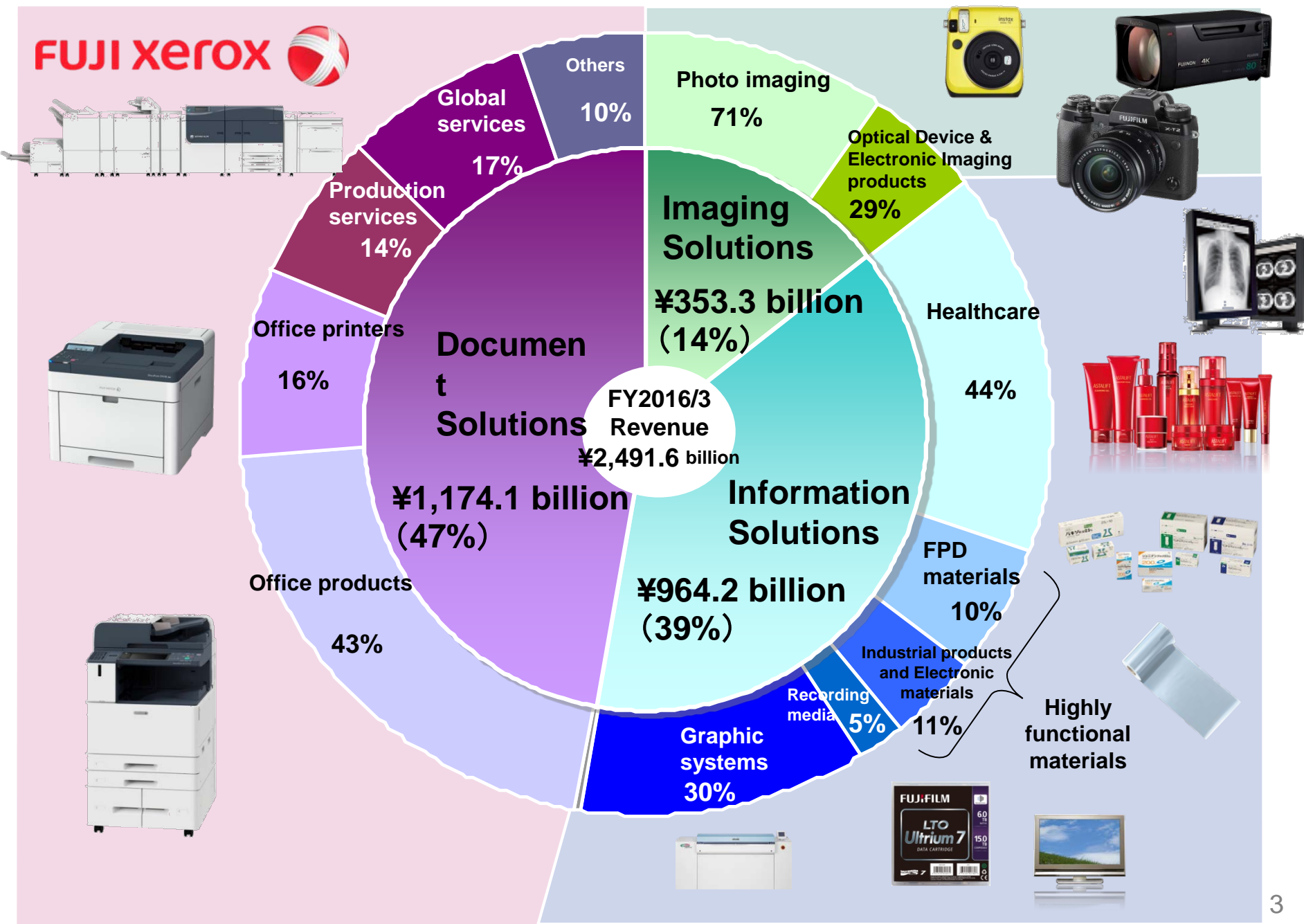
FUJIFILM Coproation



Fujifilm Group — Business Overview

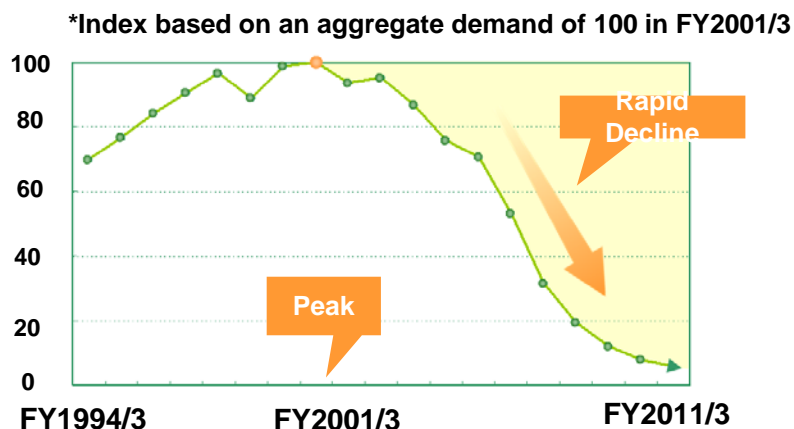
Apr. 2017
FUJIFILM Holdings Corporation

(1). Business Fields of Fujifilm Group



(2). Wave of Digitalization and Management Reform

Demand for photographic film dropped rapidly after its peak in 2000 due to digitalization

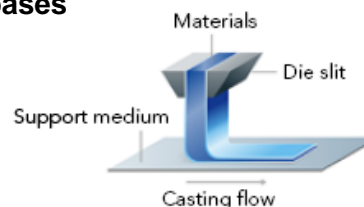


Boldly diversified its business utilizing its high technological capabilities cultivated through photographic business



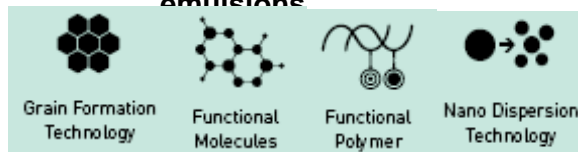
Core technologies created from its photographic

● Making film bases



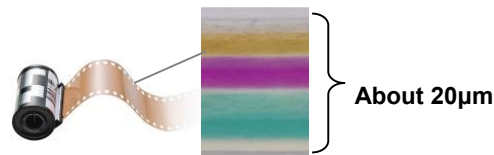
Expanding and uniformly flattening molten materials in units of micrometers to make an optically warp-free, thin film

● Making photosensitive emulsions



Designing functional materials at the nanometer level

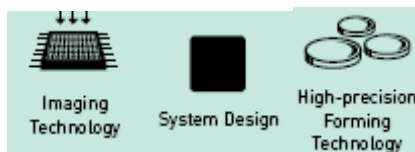
● Coating functional materials on base films



High-speed simultaneous coating of multiple uniform layers

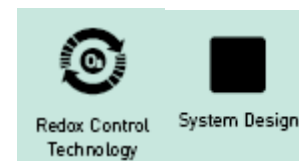
Section of color film (after development)

● Photographing with a camera



Ensuring the high-quality design and manufacture of lenses, hardware, and systems

● Developing and printing photographs



Controlling chemical reactions to ensure proper images and building appropriate systems

Priority business fields

Business Portfolio

Three fields that drive growth
among priority business fields

1. Highly Functional Materials

- Consists of flat panel display (FPD) materials and industrial products & electronics materials
- Maintain stable profit in FPD materials.
Create a number of new businesses with high profitability in highly functional materials fields

2. Healthcare

- Consists of medical systems, life sciences (cosmetics), pharmaceuticals, and regenerative medicine.
- Realize stable profit growth in medical systems.
Aim to launch new drugs around 2018

Document

- A Fuji Xerox business that offers multifunction devices, printers, and solution services
- Strengthen device sales in emerging countries and promote solution services in developed countries

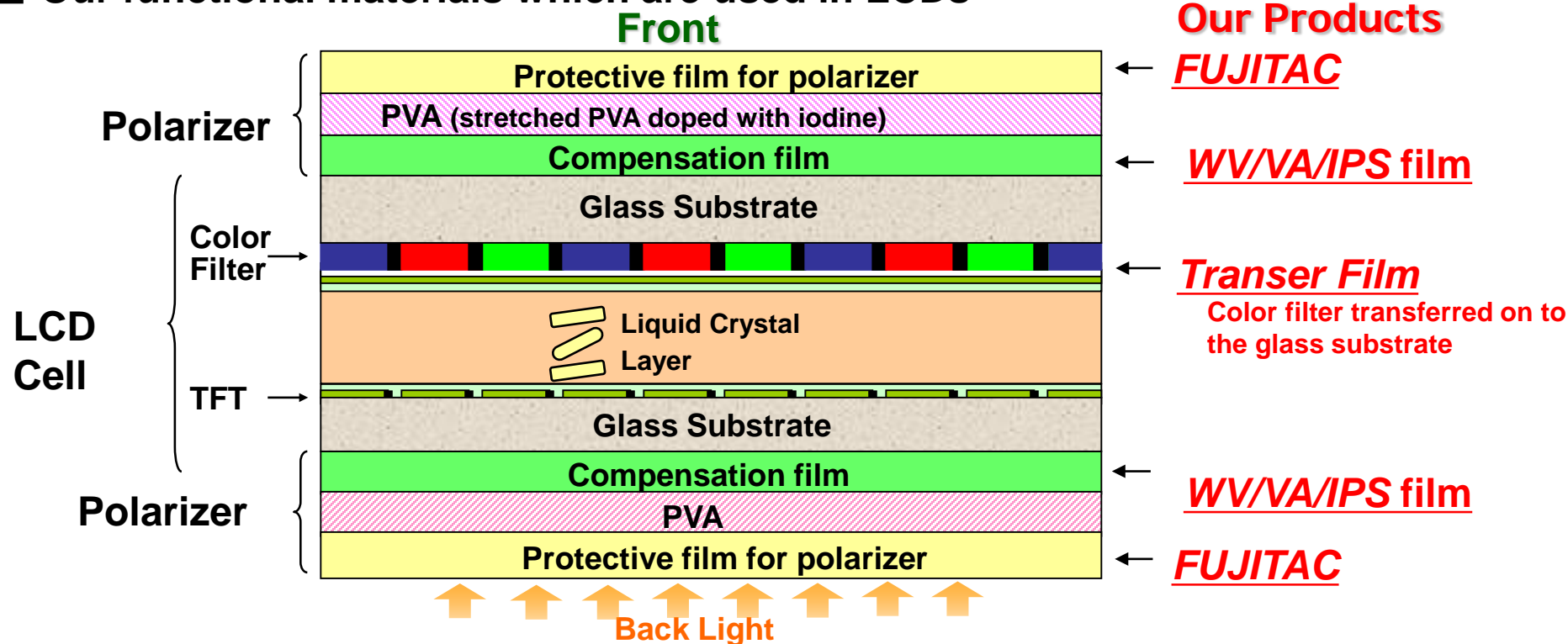
Support growth by stable profit base

Large-scale businesses such as
Graphic systems and Photo imaging

Revenue in FY2016/3
¥95.9 billion

1. Highly Functional Materials (Flat Panel Display (FPD) Materials)

■ Our functional materials which are used in LCDs



■ Differences in LCD modes

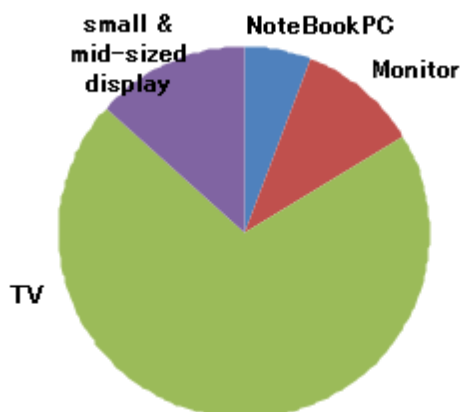
	TN mode	VA mode	IPS mode
Contrast	○	◎	△
Viewing angle	△→○ (Using WV film)	×→○ (Using retardation film)	○→◎ (Using Z-TAC)
Efficiency of light emission	◎	○	○
Manufacturing cost	Low	Middle	High

⇒ To cover weak points or improve quality, “compensation films” are used

1. Highly Functional Materials (Flat Panel Display (FPD) Materials)

- FUJITAC** ▪ Protective film for polarizer. Used regardless of any difference in LCD mode.
- WV film** ▪ A compensation film that widens the viewing angle in TN mode. Fujifilm has 100% market share.
- VA film** ▪ A film used for the polarizer in VA mode to control the inflection of light for better viewing angles and contrast.
- IPS film (Z-TAC)** ▪ A film used for the polarizer in IPS mode to contain tint fluctuations when the screen is viewed diagonally.

■ Diagram showing volume of panel shipments and main films used by application



	<i>FUJITAC</i>	<i>WV (TN)</i>	<i>VA</i>	<i>Z-TAC (IPS)</i>
TVs	●		●	●
Monitors	●	●	Partly used	●
Notebook PCs	●	Partly used		Partly used
Small and medium-sized displays (tablet PCs/smartphones)	●	Partly used		●

(as of Jan.-Dec.2015, internal investigation)

1-2.Efforts to create new business

We will continue to devote ourselves to creating structures and corporate cultures that maximize the use of tangible and intangible assets owned by Fujifilm to create new things one after another.

Through interactive dialogue with customers? We will create new value to become a relationship with Win-Win.

**We publish our products and technologies,
Working with customers outside the company
Increasing business opportunities
We will create a place and organization.**

Open Innovation Hub



1-2.Efforts to create new business

People's health, environment, etc.
Solving social problems in various areas

**In an equal co-creation relationship
It can not be done alone.
Realize big innovation.**

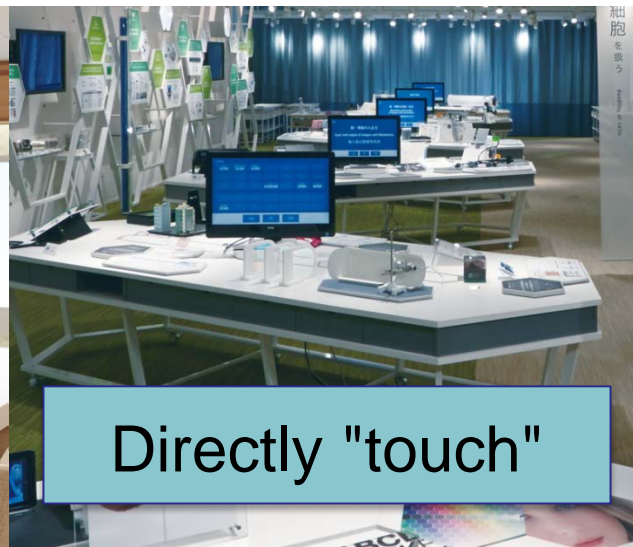
**Expanding the possibilities of
advanced and proprietary technology
cultivated with photography.
Find new value.**

Collaborative innovation

Combine unknown needs and seeds in an open world



Face to Face



Directly "touch"



Discuss "freely"

Following the Tokyo in 2014, the United States · Silicon Valley in 2015,
Opened "Open Innovation Hub" in EU · Netherlands in 2016.
We are developing open innovation globally. The concept of each site is
In common, we are exhibiting according to each market environment and regional
characteristics.




Open Innovation Hub EU
Tilburg, Netherlands

Open Innovation Hub•Satellite

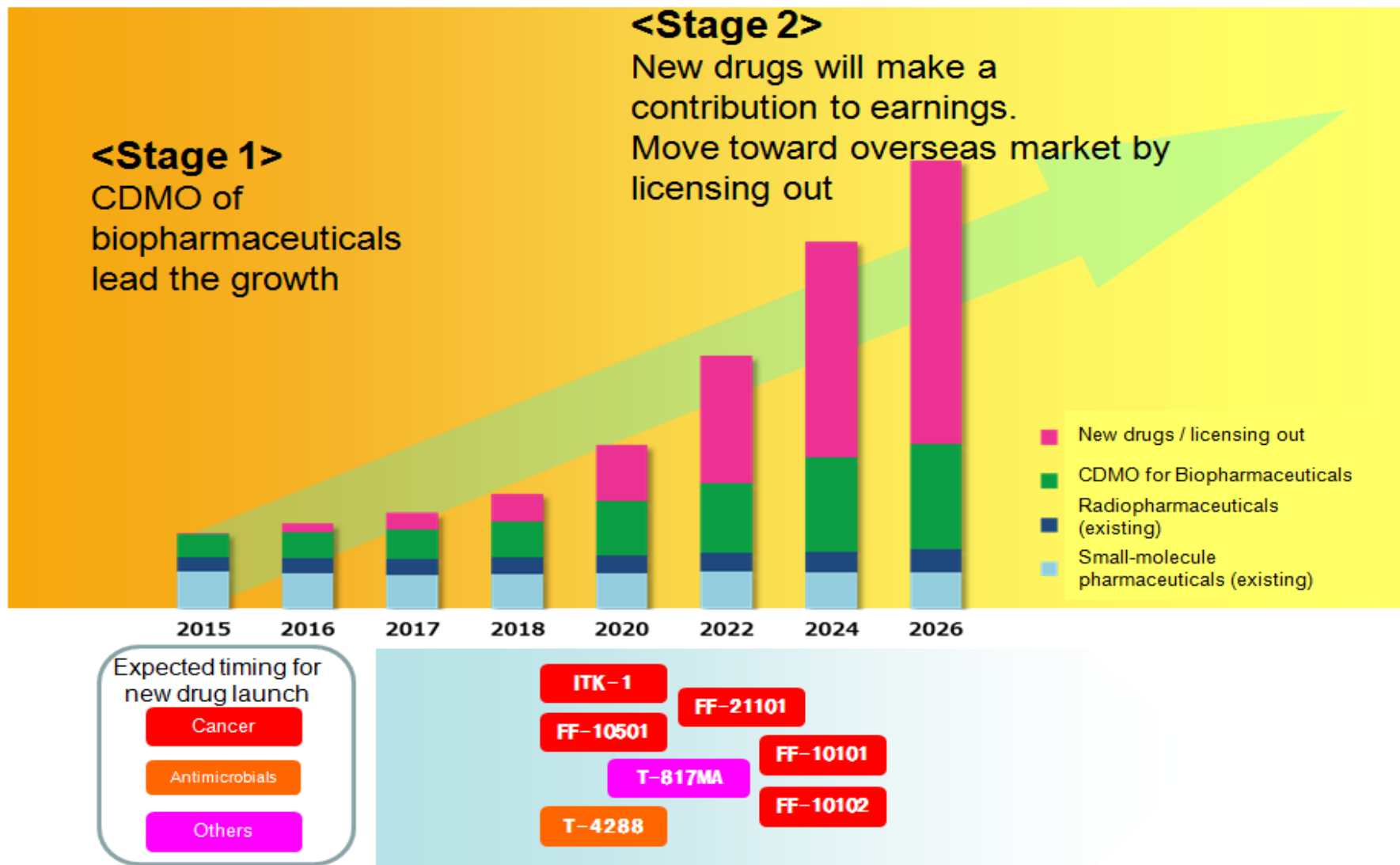
- Open Innovation Hub Satellite England London, U.K.
- Open Innovation Hub Satellite Spain Barcelona, Spain


Open Innovation Hub JAPAN
Tokyo, Japan


Open Innovation Hub U.S.
California, U.S.

2. Healthcare

Healthcare (Pharmaceuticals)



2006~

2008~

2010~

2014~

2015

<Pharmaceuticals Business>

Investment in a venture for drug discovery, Perceus Proteomics in 2006

Acquisition of radiopharmaceuticals manufacturer (FUJIFILM RI Pharma) in 2006

Acquisition of Toyama Chemical ~Full Entry to pharmaceutical business in 2008

Establishment of FUJIFILM Pharmaceutical Research Lab in 2009

Establishment of FUJIFILM Pharma as a sales organization in 2009

Establishment of FUJIFILM Pharmaceutical Product Div. in 2010

Acquisition of biopharmaceutical CMO in 2011

Establishment of JV with Kyowa Hakko Kirin in 2012

Collaboration in research with
Kyoto University, CiRA. In 2014

Collaboration in research and
clinical test with MD Anderson in 2014

Collaboration in research and
clinical test with ADCS in 2014

Decision to entry to PET diagnosis in 2014

Acquisition of Kalon in 2014

<Regenerative Medicine Business>

Establishment of Regenerative Medicine
Development Office in 2013

Establishment of Regenerative Medicine
Research Laboratories in 2013

Acquisition of J-TEC in 2014

Acquisition of CDI in 2015

R&D

Business unit

Radiopharmaceuticals

Small-molecule pharmaceuticals

Biopharmaceuticals

Regenerative medicine

3. Strategy and Progress in Each Area : 1) CDMO of biopharmaceuticals

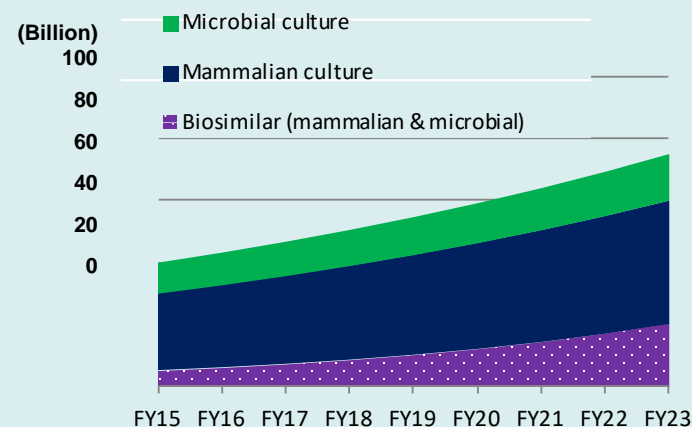
FUJIFILM Diosynth Biotechnologies (FDB)

~CDMO of biopharmaceuticals leads the growth in the pharmaceuticals business~

<Environment>

- The market of CDMO of biopharmaceuticals *is expected to grow by +8% / year.*
- The customer needs have been *diversified from R&D use to commercial production.*

<Outlook for the growth CDMO market for biopharmaceuticals>



Leading the growth of pharmaceuticals business by drawing demand of the expanding market, utilizing top-level protein production technologies and increasing production capacities.

<Technologies of FDB>

- Microbial culture**
: *pAVEway™*, a high-end technology of microbial culture
- Mammalian culture**
: *Apollo™*, a high performance mammalian expression platform
- Vaccine manufacture**
: *High containment manufacturing and mobile clean rooms* of FDBT

Regenerative Medicine

1. Regenerative medicine business of Fujifilm

<Main announcements about Regenerative Medicine>

Making the Business base

- 2014.12 Japan Tissue Engineering became a consolidated subsidiary
- 2015.5 Cellular Dynamics International became a consolidated subsidiary
- 2015.10 Cellular Dynamics International Japan was established

Progressing the development of cell therapy

- 2016.6 Entered into cooperative research for the treatment of retinal degenerative disease using iPS cells with US National Eye Institute (NEI)
- 2016.9 Reached a basic agreement with Cynata Therapeutics, Fujifilm is to have an option to acquire licenses about GvHD treatment utilizing allogeneic iPS cell-derived mesenchymal stem cells
- 2016.9 Established a joint venture, Opsis Therapeutics to develop cell therapies for treatment of retinal diseases utilizing iPS cells
- 2016.10 CDI was granted iPS cell generation patent in Japan

Further strengthening the portfolio and development of cell therapy business

ご清聴ありがとうございました

FUJIFILM
Value from Innovation